REMARKS

Claims 1-12, 42-52 and 73 are currently pending in the subject application and are presently under consideration. Claims 1, 42, and 73 have been amended, and claims 13-25, 27-41, 53-72, and 74-75 have been withdrawn as shown on pages 2 to 12 of the Reply. The amendments to claims 1, 42, and 73 embody the aspects in computer-implemented systems and methods; thus, no new matter is added. It is believed the amendments do not require further searching and should be entered to further prosecution.

Applicants' representative appreciates courtesies extended during the telephonic interview on February 22, 2008, regarding the subject application where no agreement was reached with respect to the claims as amended. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I.   **Rejection of Claims 1-12, 42-52 and 73 Under 35 U.S.C. §101**

Claims 1-12, 42-52 and 73 stand rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. It is requested that this rejection be withdrawn for at least the following reason. The claims as amended recite patentable subject matter as they produce a useful, concrete, and tangible result.

> Because the claimed process applies the Boolean principle [abstract idea] to produce a *useful, concrete, tangible result* ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999) (Emphasis added); See *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998). The inquiry into patentability requires an examination of the contested claims to see if the claimed subject matter, as a whole, is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept *has been reduced to some practical application rendering it "useful."* *AT&T* at 1357 citing *In re Alappat*, 33 F.3d 1526, 31 1544, 31 U.S.P.Q.2D (BNA) 1545, 1557 (Fed. Cir. 1994) (Emphasis added) (holding that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display).

The claimed subject matter generally relates to detecting spam e-mail messages based on evaluating pairs of features in a message. In one example, the features can also be utilized to train a machine learning spam filter. The spam filter can be leveraged in determining whether messages are spam based at least in part on previous features and relationship thereof to spam messages. To this end, claim 1 recites *the features of the pairs are evaluated for consistency with respect to one another to determine if the message is spam*. This is certainly a useful result to one receiving spam e-mails as such a determination can be used to subsequently filter the e-mail, report the e-mail, or any number of actions. Additionally, the result is a concrete one as it is repeatable, and tangible as it is computer-implemented such to accord a real world value. Additionally, claim 42 recites similar aspects, namely *detecting a spam e-mail based at least in part on comparing one or more pairs of features in the e-mail to at least one pair in the machine learning spam filter*. Such detection of spam e-mail is undoubtedly a useful and concrete result. Moreover, as claim 42 has been amended to recite a computer-implemented method, this provides sufficient tangibility to be patentable subject matter. Also, claim 73 recites *means for using the pairs of features to train a machine learning spam filter*. Again, this is a useful and concrete result as such training mitigates the need to manually configure at least a portion of the filter. Furthermore, as claim 73 has been amended to recite a computer-implemented system, this provides the requisite tangibility aspect to be patentable subject matter.

Furthermore, to the extent the Examiner might doubt the tangibility of the claims inferring that they are directed to software, being computer-implemented, in view of the recent Federal Circuit opinion in *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338 (Fed. Cir. 2005), the court stated that software code alone constitutes patentable subject matter.

> Title 35, section 101, explains that an invention includes 'any new and useful process, machine, manufacture or composition of matter.' Without question, *software code **alone** qualifies as an invention eligible for patenting under these categories, at least as processes.* (emphasis added) (citations omitted).

Therefore, even if the claims were interpreted merely as software, they would constitute patentable subject matter under *Eolas*. For at least the foregoing reasons, it is readily apparent that the claimed subject matter is patentable under 35 U.S.C. §101. Accordingly, rejection of claims 1-12, 42-52, and 73, under this section should be withdrawn.

II.   Rejection of Claims 1-8, 10-12, 42-49, 51-52, and 73 Under 35 U.S.C. §102(e)

Claims 1-8, 10-12, 42-49, 51-52, and 73 stand rejected under 35 U.S.C. §102(e) as being anticipated by Buford, *et al.* (US 2003/0041126). It is respectfully requested that this rejection be withdrawn for at least the following reason. Buford, *et al.* fails to disclose or suggest each and every element recited in the subject claims.

> For a prior art reference to anticipate, 35 U.S.C. §102 requires that *"each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

As described, the subject matter as claimed relates to detecting spam e-mail messages; in particular, the features of origination information can be analyzed for consistency to evaluate the integrity of the e-mail. When an e-mail is sent, a variety of protocols are utilized having various headers and information relating to the origin of the e-mail; this information can be evaluated to determine validity of values (or features) throughout. For example, an IP address feature can be checked against a domain name feature to discover if the domain is in the appropriate address or range of addresses. If not, inconsistency between this pair of features can indicate spam; alternatively, the inconsistency can be a result of misconfiguration of an e-mail server/client and can be populated in a trained spam filter to indicate that the inconsistency is not itself indicative of spam if desired. To this end, claim 1 recites *a message parsing component that identifies features relating to at least a portion of origination information of a message, and a feature pairing component that combines the features into useful pairs, the **features of the pairs are evaluated for consistency with respect to one another to <u>determine</u> if the message is spam***. Buford, *et al.* fails to disclose or suggest such claimed aspects.

Buford, *et al.* relates to reporting customer e-mail complaints for unsolicited commercial e-mails. In particular, Buford, *et al.* appears to disclose a system that receives a complaint of an unsolicited commercial e-mail by e-mail notification from the customer and breaks the e-mail into a plurality of headers and bodies. Typically, the innermost header is evaluated by the system as this is likely the original unsolicited e-mail. Information regarding the e-mail can be stored, such as IP address, and validated for subsequent reporting. However, Buford, *et al.* fails

to disclose or suggest *features of the pairs are evaluated for consistency with respect to one another to __determine__ if the message is spam*.

On the contrary, Buford, *et al.* isolates information in the message for storage and subsequent reporting or data access. To this end, the values are input into a database, for example, such that they are isolated into cells and are, thus, not combined into pairs as recited in the subject claims. Additionally, the values of Buford, *et al.* are not evaluated to determine if a message is spam as recited in the claims; rather the message in Buford, *et al.* has already been identified as spam by the user and reported to a complaint system. Thus, no determination is made regarding spam in Buford, *et al.*, much less a determination made by evaluating the feature pairs of the e-mail as recited in the subject claims. Accordingly, Buford, *et al.* fails to disclose or suggest each and every element as recited in claim 1.

Additionally, claim 42 recites similar aspects as well as *using the pairs of features to train a machine learning spam filter **regarding acceptable or unacceptable pairs, and detecting a spam e-mail based at least in part on comparing one or more pairs of features in the e-mail to at least one pair in the machine learning spam filter***. As shown *supra*, Buford, *et al.* does not disclose or suggest detecting spam e-mail; rather the e-mail has already been indicated as spam by the complainant user and a call ticket is created and forwarded to a help desk. Moreover, Buford, *et al.* does not disclose or suggest detecting such according to comparing pairs of features of the e-mail to those of a machine learning spam filter as recited in the subject claim; rather Buford, *et al.* merely allows for reporting related to the spam e-mails. Accordingly, Buford, *et al.* fails to disclose or suggest each and every element as recited in claim 42.

Furthermore, Buford, *et al.* does not disclose each and every element recited in claim 73. Independent claim 73 recites similar aspects to some in claim 42, namely *means for combining at least two features into pairs, the **pairs are evaluated against each other for consistency** and **means for using the pairs of features to train a machine learning spam filter***. As shown above, Buford, *et al.* does not contemplate such a filter much less evaluating feature pairs against one another as recited in the subject claim.

Thus it is readily apparent that Buford, *et al.* fails to disclose or suggest each and every element recited in claims 1, 42, and 73. Thus, rejection of these claims, as well as claims 2-8, 10-12, 43-49, and 51-52, which depend therefrom, should be withdrawn.

III.   Rejection of Claims 9 and 50 Under 35 U.S.C. §103(a)

Claims 9 and 50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Buford, *et al.* in view of to Capiel (US 2003/0149733). It is respectfully requested that this rejection be withdrawn for at least the following reasons. Buford, *et al.* and Capiel, when taken alone or in combination, fail to teach or suggest all elements recited in the subject claims. In particular, Capiel fails to cure the aforementioned deficiencies of Buford, *et al.* with respect to claims 1 and 42, from which claims 9 and 50 depend. Accordingly, this rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP438US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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